

REMARKS

Applicants respectfully request reconsideration of the application in view of the following remarks.

Allowable Subject Matter

Applicants gratefully acknowledge the allowance of Claims 1-3 and 6-9.

Rejection of Claims 4 and 5 under 35 U.S.C. § 103(a)

The Examiner has rejected Claims 4 and 5 under 35 U.S.C. § 103(a) as being obvious over Cassella Farbwerke et al. (CA 115:29157), Singh et al. (CA 115:29157) and/or Bogdanowicz-Szwed et al. (CA 136:118356) alone or in combination. Specifically, the Examiner asserts that the references, which teach methyl analogs of compounds of Claims 4 and 5, render those claims obvious because methyl analogs of known compounds are allegedly considered to be obvious variants to one of skill in the art because of their close structural similarity. The Examiner concludes that, absent unobvious or unexpected properties, the claimed compounds are considered to be obvious variants, wherein the results are predictable.

In response to this rejection, Applicants explain below that the claimed compounds indeed do possess unexpected properties that evidence their nonobviousness. The (Z)-N-monoalkyl-3-oxo-3-(2-thienyl)propanamines of Claims 4 and 5 are process intermediates useful in the preparation of the propanamine of Claim 1. The propanamine recited in Claim 1 is in turn useful as an intermediate in the production of medicinal products. As explained below, the intermediates recited in Claims 4 and 5 produce results that are completely unexpected from the three prior art compounds.

"CHIRALITY, 12, 26-29(2000)", which is mentioned in the instant specification as one of the prior art references under the title of BACKGROUND ART, discloses a process in the preparation of Duloxetine (an antidepressant). CHIRALITY also discloses that Duloxetine, which is an (S)-form compound, can be prepared from (S)-3-methylamino-1-(2-thienyl)-1-propanol ((S)-6) (see page 27, Fig. 1 and page 27, right column, to page 28, left column). A copy of this CHIRALITY reference was submitted with the IDS filed April 21, 2005.

The (S)-3-methylamino-1-(2-thienyl)-1-propanol disclosed in CHIRALITY is an S-isomer of N-methyl-3-hydroxy-3-(2-thienyl)propanamine, which is a propanamine in which R is

a methyl in General Formula (2) of instant Claim 1. It is commonly known in the art that *S*-isomers can be separated from a racemic mixture (racemate) containing both *S*-isomers and *R*-isomers by column separation or a like method using high-performance liquid chromatography. Therefore, (*S*)-*N*-methyl-3-hydroxy-3-(2-thienyl)propanamine (a precursor of (*S*)-3-methylamino-1-(2-thienyl)-1-propanol) can be easily obtained from *N*-methyl-3-hydroxy-3-(2-thienyl)propanamine. As such, the (*Z*)-*N*-monoalkyl-3-oxo-3-(2-thienyl)propenamines in instant Claims 4 and 5 are useful as preparation materials for (*S*)-*N*-methyl-3-hydroxy-3-(2-thienyl)propanamine (i.e., (*S*)-3-methylamino-1-(2-thienyl)-1-propanol), which is a useful intermediate in the preparation of Duloxetine (an antidepressant).

Exhibit A is enclosed herewith to illustrate the present invention and the cited prior art. Compound [2] in Exhibit A is 3-amino-1-(2-thienyl)-2-propen-1-one disclosed in Cassella Farbwerke et al. Compound [3] indicates 3-amino-1-(2-thienyl)-2-buten-1-one disclosed in Singh et al. Compound [4] shows 3-dimethyl-1-(2-propen-1-one of Bogdanowicz-Swed et al. By comparing the structural formulae, it becomes very clear that the Compounds [2] to [4] disclosed in the three prior art references cannot be used as a material for directly obtaining *N*-monoalkyl-3-hydroxy-3-(2-thienyl)propanamine. In contrast Compound [1], which is a compound of Claims 4 and 5, can be used as an intermediate to produce *N*-monoalkyl-3-hydroxy-3-(2-thienyl)propanamine through hydrogenation. This property of Compound [1] could in no way be predicted absent a review of Applicants' present specification. As such, the claimed compounds possess unexpected properties that clearly evidence their nonobviousness.

Accordingly, the Examiner's rejection on the basis that the (*Z*)-*N*-monoalkyl-3-oxo-3-(2-thienyl)propenamines recited in Claims 4 and 5 produce or possess the same or similar results or properties as those of the compounds disclosed in the three references is groundless. On the contrary, the propenamines of Claims 4 and 5 achieve results that are unexpected from the compounds disclosed in the three references. Accordingly, the subject matter of Claims 4 and 5 is unobvious over the cited references.

CONCLUSION

In view of the foregoing, the rejection under 35 U.S.C. § 103(a) has been overcome, and Applicants request withdrawal of the rejection. As no other rejections remain outstanding, allowance of the present application is respectfully requested. However, should any remaining

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issues be identified by the Examiner that would prevent such allowance, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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